

Model PS2/3/5

Power Supply / Battery Charger

Operating and Installation Instructions

52-133 Rev B.01

I. Warnings and Notices

- WARNING - To reduce the risk of fire or electric shock, do not expose this product to rain or moisture
- WARNING - This installation and all servicing should be made by qualified service personnel and should conform to all local codes
- NOTICE - This equipment shall be installed in a manner which prevents unintentional operation from employees or other personnel working about the premises, by falling objects, by building vibration and by similar causes
- NOTICE - This equipment is not intended for use within the patient care areas of a Health Care Facility

Symbol Definitions



WARNING - Read the instruction manual to avoid personal injury or property damage



WARNING - Risk of electric shock. Service to be performed by a qualified service person



Table of Contents

Section	Page
I. Warnings and Notices	2
1 Introduction	4
2 Applicable Standards / Documents	5
3 System Overview	6
3.1 Electrical Ratings and Specifications	6
3.2 Terminal Descriptions and Electrical Ratings	7
3.3 AC Input Connection	8
3.4 Battery Terminals	8
3.5 DC Output Terminals	9
3.6 Fault Reporting Terminals	9
3.7 Fusing	9
4 Installation	10
4.1 Mounting	10
4.2 Wiring	11
5 Operating the PS2/3/5	12
5.1 Setting the DIP Switches	12
5.2 Visual Indicators	13
5.3 Troubleshooting	13
6 Specifications	14
6.1 Electrical Specifications	14
6.2 Temperature Specifications	14
6.3 Mechanical Specifications	14
Appendix A	15
Wiring an AlarmSaf RBKS Module to a PS2/3/5 Voltage Fault Output	15



Section 1

Introduction

The PS2/3/5 is a linear power supply designed for use in the access control, fire industry, and related industries by the systems integrator.

Features:

- Output voltage of 12V or 24VDC
- Units can charge up to a maximum 38AH of battery within 48 hours
- All units employ full fault detection with an optional Form-C relay output
- Fault conditions monitored include:
 - Low or missing AC
 - High or low output / battery
 - Blown fuse
 - Reversed Battery
 - Internal Power Supply failure
- Visual indicators include:
 - AC Presence (Green)
 - System OK or System Trouble (Green or Yellow)



Section 2

Applicable Standards / Documents

NFPA Standards

NFPA 72 National Fire Alarm Code

NFPA 70 National Electrical Code

NFPA 731 Standard for the Installation of Electronic Premises Security Systems

UL Standards (Applies to model numbers ending in "-UL" only)

UL 294 Access Control System Units

UL 1481 Power Supplies for Fire Protective Signaling System

Other

MEA Listed

California State Fire Marshal (CSFM) Listed

Applicable Local and State Building Codes

Requirements of the Local Authority Having Jurisdiction (LAHJ)

Product Use

When installed in accordance with all standards listed in Section 2 of this document, the PS2/3/5 provides power for use with typical 12 or 24VDC devices as used in the access control, fire, or security industries such as, but not limited to, mag locks, door strikes, door holders, smoke dampers, four wire smoke detectors, card readers, keypads, etc.



Section 3

System Overview

3.1 Electrical Ratings and Specifications

Manufactured By

AlarmSaf
65A Industrial Way
Wilmington, MA 01887

Tel: 800 987 1050
Tel: 978 658 6717
Fax: 978 658 8638
www.alarmsaf.com

Model Numbers and Electrical Ratings

Model	Order Number	Enclosure (Note 2)	Input Voltage	Max Input Current or TXFMR Rqd.	Output Voltage	Max Output Current	Max Battery	Fault Output Type
PS2-BD	00804	None	Note 1	16V50, T24V4A	12/24VDC	2A	14AH	Voltage
PS3-BD	00805	None	Note 1	T12V5A, T24V5A	12/24VDC	3A	20AH	Voltage
PS5-BD	00806	None	Note 1	T12V5A, T24V5A	12/24VDC	4A	38AH	Voltage
PS5-12040-BD	00844	None	17.5VAC	T12V5A	12VDC	4A	38AH	Form-C
PS5-24040-BD	00845	None	28.2VAC	T24V5A	24VDC	4A	38AH	Form-C
PS5-UL-12-BD	01301	None	17.5VAC	T12V5A	12VDC	4A	38AH	Voltage
PS5-UL-24-BD	01302	None	28.2VAC	T24V5A	12VDC	4A	38AH	Voltage
PS5-12025-UL-BD	01326	None	17.5VAC	T12V5A	12VDC	2.5A	38AH	Form-C
PS5-24025-UL-BD	01327	None	28.2VAC	T24V5A	24VDC	2.5A	38AH	Form-C
PS5-12040-UL-BD	01311	None	17.5VAC	T12V5A	12VDC	4A	38AH	Form-C
PS5-24040-UL-BD	01312	None	28.2VAC	T24V5A	24VDC	4A	38AH	Form-C
PS3-BFS-12	00809	11x15x4	120VAC	1.25A	12VDC	3A	20AH	Voltage
PS3-BFS-24	00810	11x15x4	120VAC	2.50A	24VDC	3A	20AH	Voltage
PS5-BFS-12	00811	11x15x4	120VAC	1.25A	12VDC	4A	38AH	Voltage
PS5-BFS-24	00812	11x15x4	120VAC	2.50A	24VDC	4A	38AH	Voltage
PS5-12040-B03	00834	11x15x4	120VAC	1.25A	12VDC	4A	38AH	Form-C
PS5-24040-B03	00836	11x15x4	120VAC	2.50A	24VDC	4A	38AH	Form-C
PS5-BFS-12-UL	01303	11x15x4	120VAC	1.25A	12VDC	4A	38AH	Voltage
PS5-BFS-24-UL	01304	11x15x4	120VAC	2.50A	24VDC	4A	38AH	Voltage
PS5-12025-B03-UL	01317	11x15x4	120VAC	1.25A	12VDC	2.5A	38AH	Form-C
PS5-24025-B03-UL	01318	11x15x4	120VAC	2.50A	24VDC	2.5A	38AH	Form-C
PS5-12040-B03-UL	01313	11x15x4	120VAC	1.25A	12VDC	4A	38AH	Form-C
PS5-24040-B03-UL	01314	11x15x4	120VAC	2.50A	24VDC	4A	38AH	Form-C

Table 3.1

Note 1: Input Voltage is dependent on the desired output voltage setting. For a 12V output, a 17.5VAC transformer is required. For a 24V output, a 28.2VAC transformer is required.

Note 2: Some PS5-12xxx and PS5-24xxx models have optional enclosure sizes not covered in this manual.



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3.2 PS2/3/5 Board Terminal Descriptions and Electrical Ratings

Terminal / Connector	Description	Rating
TB1 - Low Voltage AC Input and Battery Output		
LOW VOLT AC CONNECT	Low voltage AC input	17.5VAC or 28.2VAC - See Table 3.1 for Ratings
LOW VOLT AC CONNECT		
BATTERY CONNECT +	Positive Battery Connection	12VDC or 24VDC at 14AH - 38AH - See Table 3.1 for Ratings
BATTERY CONNECT -	Negative Battery Connection	
TB2 - DC Output and Fault Output		
DC OUTPUT +	DC Positive Output	12VDC or 24VDC at full output current of supply - See Table 3.1 for ratings.
DC OUTPUT -	DC Common Output	
Units with Relay Fault Output		
FAULT OUTPUT NC	Fault Relay Output Normally Closed	1 Amp at 24VDC (Resistive) - Contacts are labeled in the non-powered (Fault) condition
FAULT OUTPUT C	Fault Relay Output Common	
FAULT OUTPUT NO	Fault Relay Output Normally Open	
Units with Voltage Fault Output		
FAULT OUTPUT +	Low-Current Fault Output +	For connection to AlarmSaf RBKS module <i>ONLY</i> - See Section 3.6 and Appendix A
FAULT OUTPUT -	Low-Current Fault Output -	

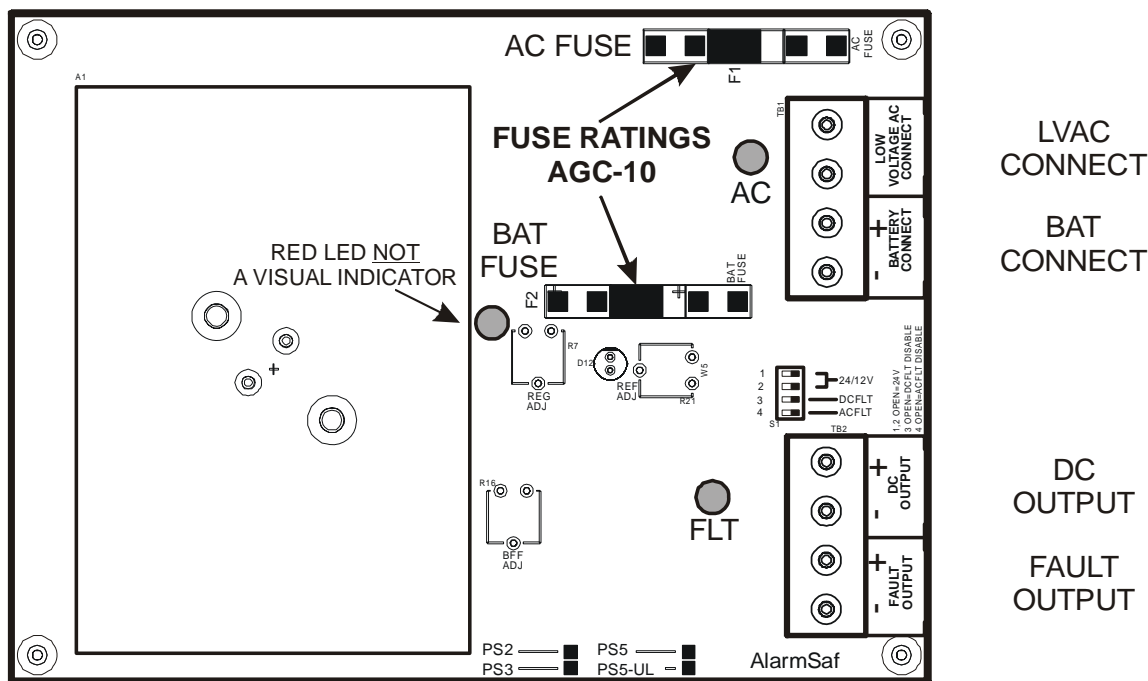


Figure 3.2

Note: Wire should be sized appropriately for voltage drop and current carrying capability. All terminals are labeled for polarity where appropriate.

3.3 AC Input Connection

3.3.1 Board-Level Supplies

Board-level units need to be connected to an appropriate low-voltage AC supply voltage of a sufficient VA rating (See Table 3.1). The connection is made on TB1 at the terminals labeled "Low Voltage AC Connect." The phase of this connection is not important.

3.3.2 Cabinet-Level Supplies

Cabinet-level supplies are pre-fitted with a hardwired transformer of the correct voltage. The connections should be made as follows:

- Black Hot
- White Neutral
- Green Earth Ground

Note - The Green or Green/Yellow earth ground wire should always be connected first or disconnected last for safety.

Note - All wiring should be installed in accordance with (NEC760) NFPA70, NFPA72, and all local code requirements. Power limited wiring requires that power limited and non-power limited wiring remain physically separated. All power limited circuits must remain at least one quarter inch (¼") away from any non-power limited circuit wiring. All power limited circuit wiring must enter and exit the cabinet through different knockouts than non-power limited wiring.

3.4 Battery Terminals

The PS2/3/5 has one set of battery terminals labeled Battery Connect +/- which will charge a sealed lead acid / gel cell battery set for backup of the output voltage. The battery terminals are fuse protected.

Caution - Observe the polarity of the battery terminals with respect to the battery set or damage to the load, power supply, or battery set may occur.

Note - The DC output current deducts from the current available to charge the battery set. For example, a PS5 with a 3.5ADC output load, would only have 0.5A available to charge the battery set. This will impact the recharge time of the battery set.

Note - Series-connected batteries should always be of the same ampour capacity, age, and state-of-charge to prevent battery / system damage.

Note - It is the responsibility of the installer to determine the minimum battery requirement for the particular application in which the supply is being used. Backup batteries should be serviced at regular intervals as determined by local and/or national codes.



3.5 DC Output Terminals

The PS2/3/5 has one set of output terminals labeled DC Output +/- which provides a constant output of either 12VDC or 24VDC. See Section 5.1 for additional information on output voltage selection on board-level units.

Caution - Observe the polarity of the output terminals with respect to the load or damage to the load may occur.

3.6 Fault Reporting Terminals

The PS2/3/5 utilize either a low-current voltage fault output for connection to an AlarmSaf RBKS module or an integral Form-C fault relay output (optionally available in the PS5 only). See Table 3.1 to determine the Fault Output style for a particular model number. Fault conditions indicated include:

- Low or missing AC
- High Battery Voltage
- High Output Voltage
- Blown Fuse (AC or Battery)
- Low Battery Voltage
- Low Output Voltage

NOTE - The PS2/3/5 does NOT detect battery presence. If battery presence detection is required with a PS2/3/5, the addition of a BP-001 module will add this feature. AlarmSaf also manufactures supplies with integral battery presence detection.

3.6.1 Low-Current Voltage Fault Output (See also Appendix A)

The voltage fault output is for connection to an AlarmSaf RBKS module for remote or local fault reporting. The following RBKS modules may be used with the voltage fault output:

- RBKS-124P NOT Fail Safe
- RBKS-124N Fail Safe
- RBKS-10 Fail Safe when using the Negative Trip Input only

Note - The RBKS-124P does not provide a fail safe indication - the relay will only indicate a fault condition if a source of power (Battery / AC power) is present. If a total loss of battery and AC power occurs, the relay will not indicate a fault.

Note - The voltage fault output will only supply a very low current. It will not power a relay coil - even a low-current relay coil. This output must be used with a sensitive trip relay.

3.6.2 Form-C Relay Fault Output

The integral relay output provides a fail-safe, Form-C relay output rated at 1A at 24VDC. Terminals are labeled in the unpowered (fault) state.

3.7 Fusing

The PS2/3/5 contains two replaceable fuses - The AC Fuse and the Battery Fuse. When replacing these fuses, only the equivalent type and rating are to be used. Both fuses are rated at 10A (AGC-10). See Figure 3.2 for locations.



Section 4

Installation

4.1 Mounting

The PS2 is available only as a board level supply, while the PS3 and PS5 are available in either board-level or cabinet level versions.

4.1.1 Mounting a Cabinet-Level Supply

If the PS3/5 is provided in a wall mount enclosure, use #8 hardware minimum in four locations. Use an appropriate fastening system for the mounting surface.

Cabinet Mounting:

1. Mark and predrill two holes for the top keyhole mounting screws
2. Install two fasteners in the mounting wall leaving screwheads protruding approximately ¼ inch
3. Using the two upper keyholes, mount the cabinet over the two screws
4. Mark the two lower holes, remove the cabinet and drill the lower mounting holes
5. Mount the cabinet, install the remaining fasteners, and tighten all fasteners

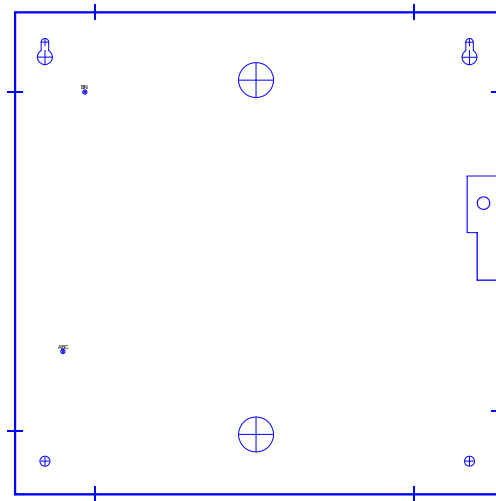


Figure 4.1.1

4.1.2 Mounting a Board-Level Supply

Board-level, supplies can be mounted either with the provided double-sided tape or by using nylon standoffs and hardware (not included). Replacement boards for a listed supply must reuse the existing hardware to maintain the listing.



4.2 Wiring

4.2.1 Wire Routing

All wiring must be installed in accordance with NFPA70, NFPA72, and all local code requirements.

Power Limited wiring requires that power limited and non-power limited wiring remain physically separated. Any power limited circuit entering the enclosure must remain at least one quarter inch (¼") away from any non-power limited circuit wiring. Any power limited circuit wiring must enter and exit the enclosure through different knockouts than non-power limited circuit wiring. Wiring within the enclosure should be routed around the perimeter of the cabinet. It should not be routed across the circuit boards.

4.2.2 AC Input

4.2.2.1 Cabinet Level Supplies

Connection should be made via an approved method. AC mains wiring should be no smaller than 14 AWG. See Section 3.3 for details.

4.2.2.2 Board-Level Supplies

Locate the LVAC Input terminals. These terminals are non-removable and accept wire sizes between #12 and #22 AWG. Phasing of the LVAC input is not important on the PS2/3/5. See Section 3.1 for Transformer requirements.

4.2.3 Output Wiring

Locate the output terminals. These terminals are non-removable and accept wire sizes between #12 and #22 AWG. Polarity is marked on the PCB, and on the supporting documentation.

4.2.4 Battery Wiring

Locate the battery terminals. These terminals are non-removable and accept wire sizes between #12 and #22 AWG. Polarity is marked on the PCB. If the PS2/3/5 is set for 12VDC, connect a single 12V battery to the terminals. If the PS2/3/5 is set for 24VDC, connect two 12V batteries in series to the terminals.

CAUTION - A lead-acid battery has the capability of producing extremely high current. Personal or property damage can occur if the batteries are shorted or improperly connected.

4.2.5 Fault Output Wiring

4.2.5.1 Supplies with Integral Relay

Locate the Fault Output relay terminals. These terminals are non-removable and accept wire sizes between #12 and #22 AWG. The relay terminals are marked in the non-powered (fault) state (In a normal (non-fault) condition, there is a connection between C and NO).

4.2.5.2 Supplies with a Voltage Fault Output

See Appendix A for details on wiring the voltage Fault Output.



Section 5

Operating the PS2/3/5

5.1 Setting the DIP Switches (Non-Listed supplies only)

Before powering a system containing a PS2/3/5, the DIP Switches should be set for proper operation. The PS2/3/5 board may have either 4 switches or 8 switches, depending on the age of the supply.

Note - Due to inconsistencies by the manufacturers of DIP switches in the labeling of switch numbers and ON and OFF positions, AlarmSaf indicates switch settings visually and descriptively.

Note - All switch settings shown below are indicated with the board positioned so that the terminal strips are to the right and the large heatsink is to the left as seen in Figure 5.1.

5.1.1 Supplies with Four Switches

	12V Output	24V Output	DC Faults Enable	AC Faults Enable
Top Switch	Right (On / Closed)	Left (Off / Open)	N/A	N/A
Second Switch	Right (On / Closed)	Left (Off / Open)	N/A	N/A
Third Switch	N/A	N/A	Right (On / Closed)	N/A
Bottom Switch	N/A	N/A	N/A	Right (On / Closed)

5.1.2 Supplies with Eight Switches

	12V Output	24V Output	DC Faults Enable	AC Faults Enable
Top Switch	Right (Off / Open)	Right (Off / Open)	N/A	N/A
Second Switch	Left (On / Closed)	Right (Off / Open)	N/A	N/A
Third Switch	Left (On / Closed)	Right (Off / Open)	N/A	N/A
Fourth Switch	Right (Off / Open)	Right (Off / Open)	N/A	N/A
Fifth Switch	Left (On / Closed)	Right (Off / Open)	N/A	N/A
Sixth Switch	Left (On / Closed)	Right (Off / Open)	N/A	N/A
Seventh Switch	N/A	N/A	N/A	Left (On / Closed)
Bottom Switch	N/A	N/A	Left (On / Closed)	N/A

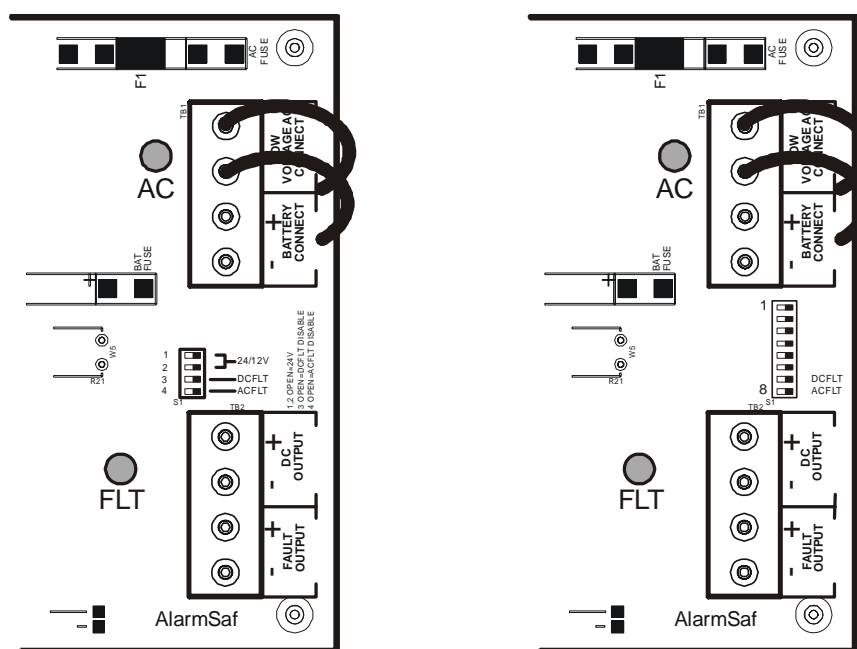


Figure 5.1



5.2 Visual Indicators

The PS2/3/5 contains two visual status indicators.

NOTE - The RED LED is **not** a visual indicator. It serves no user function and can be disregarded.

5.2.1 AC ON (Green)

This LED lights when Low Voltage AC is present AND the AC fuse on the PS2/3/5 is intact.

CAUTION - *Always check for AC presence with an AC volt meter before servicing*

5.2.2 FAULT / FLT (Green / Yellow)

The color and operation of this LED varies depending on the type of Fault output present on the supply.

5.2.2.1 Supplies with an Integral Relay Fault Output

The Fault LED on supplies with an integral fault relay is Green in color and is lit in a normal (no fault) condition. This LED extinguishes when a fault condition is detected.

5.2.2.2 Supplies with a Voltage Fault Output

The FLT output on supplies with a voltage fault output is yellow in color and is extinguished in a normal (no fault) condition. This LED will flash when a fault condition is detected.

5.3 Troubleshooting

Condition	Possible Cause	Solution
The output voltage of the PS2/3/5 is incorrect or missing	Incorrect switch settings	Verify proper switch setting
	Excessive loading on output	Verify that output current is less than rated current
	AC trouble	Verify presence of AC voltage
	Bad / Incorrect Battery Set	Verify that a good battery set of the proper voltage is connected to the PS2/3/5
	Internal problem with PS2/3/5	Contact AlarmSaf
The fault LED is indicating a fault condition	Blown battery fuse	Verify fuse is intact - Check wiring integrity before replacing fuse
	Excessive loading on output	Verify that output current is less than the rated current
	Damaged, Incorrect, or Missing Battery Set	Verify that a good battery set of the proper voltage is connected to the PS2/3/5
	Low or Missing AC	Verify the presence of at least 102VAC on the primary of the Transformer
	Blown AC fuse	Verify fuse is intact - Check wiring integrity and disconnect main AC power before replacing fuse
	Internal problem with PS2/3/5	Contact AlarmSaf



Section 6 Specifications

6.1 Electrical Specifications

6.1.1 Input Voltage	See Section 3.1
6.1.2 Input Power	See Section 3.1
6.1.3 Output Voltage	12 or 24VDC Nominal - See Section 3.1
6.1.4 Output Current	See Section 3.1
6.1.5 Maximum Battery Charger Capacity	See Section 3.1
6.1.7 Maximum Battery Charge Current	See Section 3.1

6.2 Temperature Specifications

6.2.1 Ambient Temperature Range	0°C to 49°C (32°F to 120°F)
6.2.2 Ambient Humidity	93% at 32°C (90°F) Maximum

6.3 Mechanical Specifications

6.3.1 Weight (PCB Only)	0.85lbs.
6.3.2 Size (PCB Only)	7.00" L x 5.10" W x 1.50" H Max.
6.3.3 CAD Drawing	

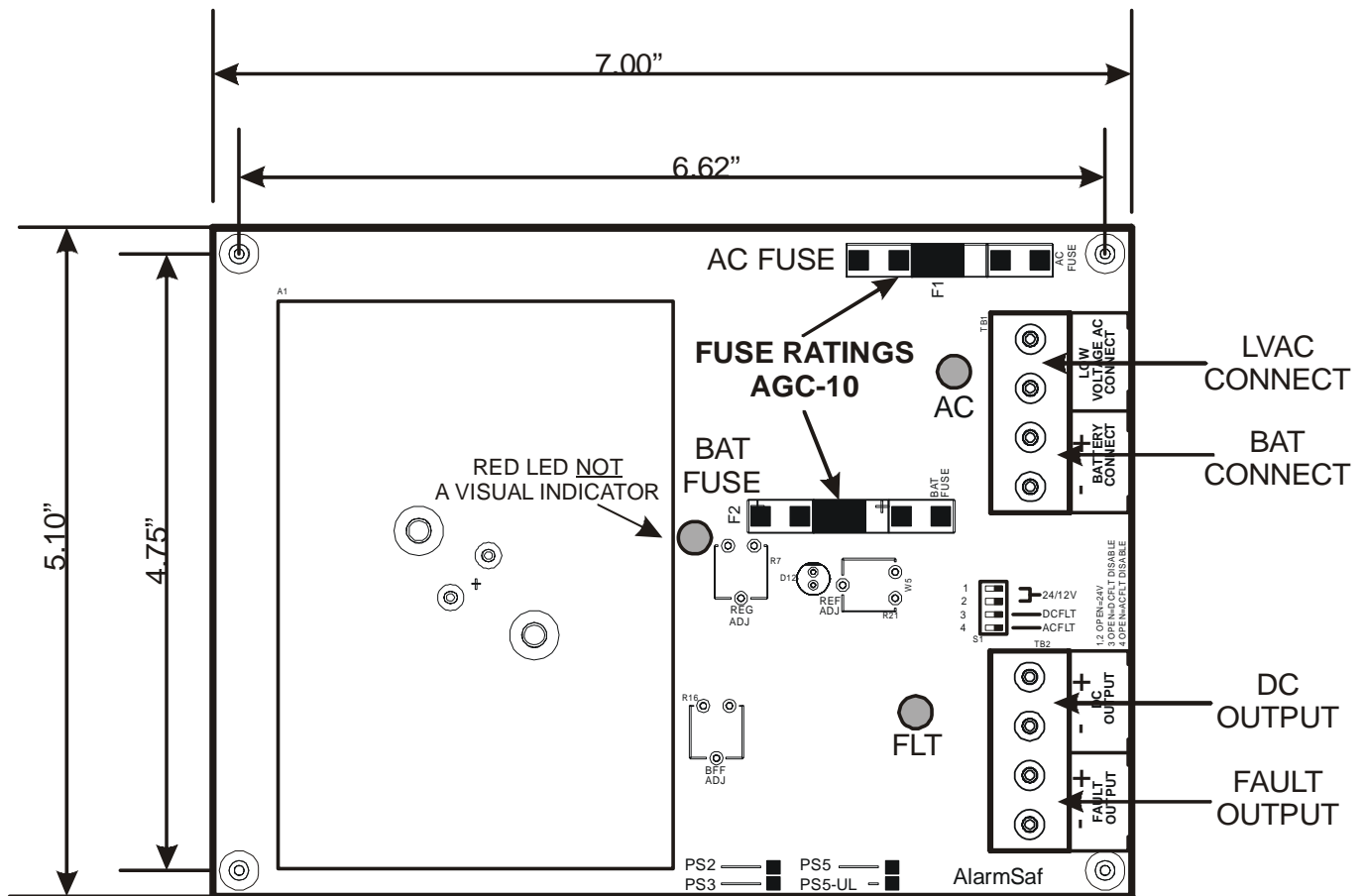


Figure 6.3



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Appendix A

Wiring an AlarmSaf RBKS module to a PS2/3/5 Voltage Fault Output

In order to get a usable signal from the voltage fault output on a PS2/3/5, it must be connected to an AlarmSaf RBKS module in the proper configuration. The following RBKS modules may be used with the voltage fault output:

- RBKS-124P *NOT* Fail Safe
- RBKS-124N Fail Safe
- RBKS-10 Fail Safe when using the Negative Trip Input only

Note - The RBKS-124P does not provide a fail safe indication - the relay will only indicate a fault condition if a source of power (Battery / AC power) is present. If a total loss of battery and AC power occurs, the relay *will not* indicate a fault.

Note - The voltage fault output will only supply a very low current. It *will not* power a relay coil - even a low-current relay coil. This output *must* be used with a sensitive trip relay.

Note - When wiring a fail safe relay configuration, the resistor shown is essential to the operation of the relay and cannot be omitted. The resistor value can be between 1K and 100K 1/4W.

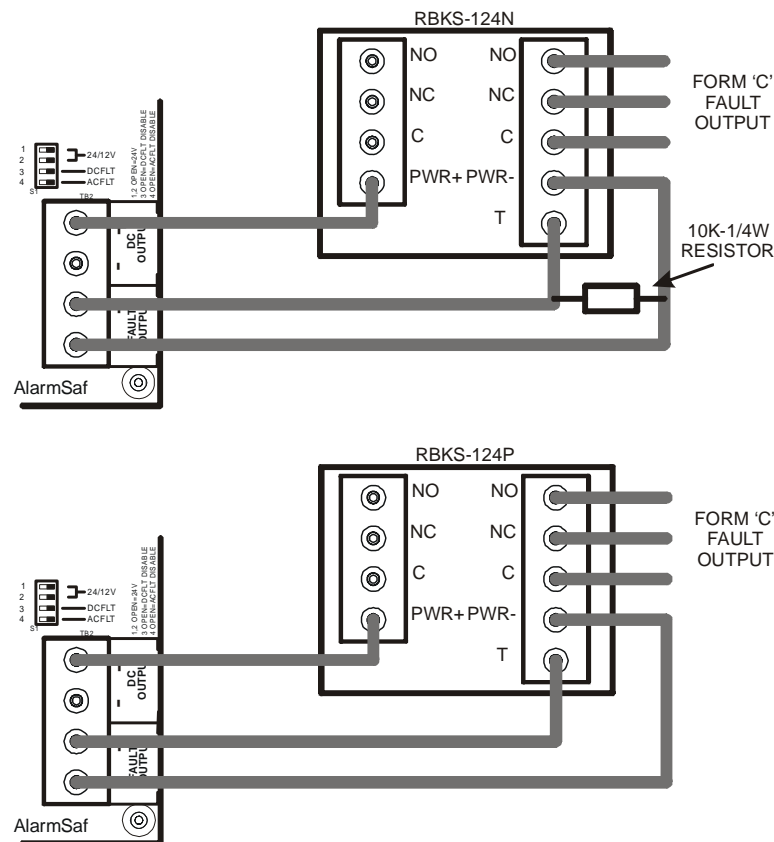


Figure A.1



Appendix B

Addendum A - Compatible Device List

The notification appliances listed below are to be employed in conjunction with Listed control modules which are part of a Listed Fire Alarm System. The notification appliances are to be interconnected as described in the installation instructions referenced in the marking of the product.

12V Devices

Faraday - Models 5310-0-14-12-DC, 5311-0-14-12-DC, 5508B-N-14-12-DC, 5521B-N-14-12-DC, 5522B-N-14-12-DC, 5508B-W-14-12-DC, 5521B-W-14-12-DC, 5522B-W-14-12-DC, 5508B-D-14-12-DC, 5521B-D-14-12-DC, 5522B-D-14-12-DC, 5508B-S-14-12-DC, 5521B-S-14-12-DC, 5522B-S-14-12-DC, 6226B-N-14-12-DC, 6227B-N-14-12-DC, 6228B-N-14-12-DC, 6226B-W-14-12-DC, 6227B-W-14-12-DC, 6228B-W-14-12-DC, 5336B-N-14-12-DC, 5337B-N-14-12-DC, 5338B-N-14-12-DC, 5336B-W-14-12-DC, 5337B-W-14-12-DC, 5338B-W-14-12-DC, 5336B-D-14-12-DC, 5337B-D-14-12-DC, 5336B-S-14-12-DC, 5337B-S-14-12-DC

Gentex - Model GX5-2L, GX5-2-15, GX5-2-15/75, GX90-2, GX90S-2-15, GX90S-2-15/75, SHG-2-15, SHG-2-15/75

Wheelock - Models AES-DL2-R, AES-DL2-W, AES-EL2-R, AES-EL2-W, CH-BF2-R, CH-CF2-W, CH-DF2-R, EH-DL2-R, EH-EL2-R, EH-DL2-W-12-VF-R, EH-EL2-W-12-VF-R, EHS-DL2-W-VF-R, EHS-EL2-W-VF-R, MIZ-12-R, MIZ-12-W, MT-12-WH, 34T-12-R, LS1-12-VFR, MS1-12-VFR, LSP-12-HFR, MSP-12-HFR, LS1M-12-VFR, LSPM-12-VFR, MIZ-12-LS-VFR, MIZ-12-MS-VFR, MIZ-12-LSM-VFR, MT-12-LS-VFR, MT-12-MS-VFR, MT-12-LSM-VFR, MT4-12-LS-VFR, MT4-12-MS-VFR, MT4-12-LSM-VFR

Detection Systems, Inc. - Model MB4W (4 wire)

The 12V unit may be used with any UL Listed Access Control device with an input voltage range over the range of 11.75 to 12.5VDC.

24V Devices

Ansul Company - Models 24744, 24746, 24750, 24753, 57549, 74646, 74647

Autocall - Models EH-DL1-R, EH-EL1-R, EHS-DL1-W-VF-R, EHS-EL1-W-VF-R, EH-DL1-W-24-VF-R, EH-EL1-W-24-VF-R

Cerberus Pyrotechnics - Models AEB-24, AEB-24S, AEB-24SH, AEBM-E, AES-24, AES-24S, AES-24SH, AESM-D, BCD-6, BCD-6S, BCD-10, BCD-10S, CEC-24, CEC-S24, CES-24, CES-S24, CHM-D, EH-24, EH-24S, EH-24SH, EH-24FSH, EHM-D, EHM-E, EHO-24, EHO-24S, EHS-24, EHS-24F, HDC-24, HM-24, HM-24S, HM-24SH, HM-24W, HMM-FS, MBCD-6, MBCD-6S, MBCD-10, MBCD-10S, SEA-3, SPKM-7025R, SPKM-7025W, SPKM-7070R, SPKM-7070W, SSPK-7070, SSPK-7070H, SSPK-9070HW, SSPK-9070W, SVD-24, SVD3-24, SVM-T-F, SVM1T-F, SVM3T-F, VL

Ellenco Inc. - Models 45, 45S, 45S-H, 45S-V, 61, 61H, 62, 62H, 63, 63H, 604-T, 606, 606S, 606M, 606MS, 610, 610S, 610M, 610MS

Electro Signal Laboratories - Models 106-28, 106-29, 106-30, 106-31, 107-70, 107-71, 107-80, 108-61, 108-62, 108-63, 108-64, 109-11, 109-12, 110-01, 110-02, 110-03, 110-04, 110-11, 110-12, 110-13, 110-14, 110-21, 110-22, 110-23, 110-24

Faraday - Models 5310-0-14-24-DC, 5311-0-14-24-DC, 5508B-N-14-24-DC, 5521B-N-14-24-DC, 5522B-N-14-24-DC, 5508B-W-14-24-DC, 5521B-W-14-24-DC, 5522B-W-14-24-DC, 5508B-D-14-24-DC, 5521B-D-14-24-DC, 5522B-D-14-24-DC, 5508B-S-14-24-DC, 5521B-S-14-24-DC, 5522B-S-14-24-DC, 6226B-N-14-24-DC, 6227B-N-14-24-DC, 6228B-N-14-24-DC, 6146B-N-14-24-DC, 6147B-N-14-24-DC, 6148B-N-14-24-DC, 6226B-W-14-24-DC, 6227B-W-14-24-DC, 6228B-W-14-24-DC, 6146B-W-14-24-DC, 6147B-W-14-24-DC, 6148B-W-14-24-DC, 5336B-N-14-24-DC, 5337B-N-14-24-DC, 5338B-N-14-24-DC, 5336B-W-14-24-DC, 5337B-W-14-24-DC, 5338B-W-14-24-DC, 5336B-D-14-24-DC, 5337B-D-14-24-DC, 5338B-D-14-24-DC, 5336B-S-14-24-DC, 5337B-S-14-24-DC

Federal Signal Corp. - Models VALS Series, 450 Series, 460-024

Fire Control Instruments, Inc. - Models 130-3117C, 130-3118C, 130-3146C, 130-3147C, 30-3184C, BP-4-24-R, BP-6-24-R, BP-8-24-R, BP-10-24-R, HP-24, HMS, HEF, HES, HEF/STW, HEF/STS, STW/4F, STS/4F, STW/4S, STS/4S, STW/1G, STS/1G

Fire Lite Alarms, Inc. - Models STH-71-24VDC, STH-72-24VDC, WBDP-G4-24, WBDP-G6-24, WBDP-G8-24, WBDP-G10-24

Gamewell Company - Models 68460-01, 68461-01, 70381, 70382, 70383, 70384, 70389, 70390, 70393, 70394, 70398, 70401, 70402, 70403, 70672, 70673, 70674, 70675, 70676, 70677, 70871, 70872, 70873, 70874, 70875, 70921, 70922, 70923, 70924, 70925, 70926, 70991, 70992, 70986, 70987, 70988, 70989, 70990, 70993, 70994, 70995, 70996

Gentex - Models GX90S-4H, GX90-4L, GX904, GX5-4H, GX5-4L, SHG24H, GX5-4-15, GX5-4-15/75, GX5-4-110, GX90-4, GX90S-4-15, GX90S-4-15/75, GX90S-4-110, SHG-4-15, SHG-4-15/75, SHG-4-110

Grinnell Fire Protective Systems - Models 34T-24, 46T-G4-24, 46T-G6-24, 46T-G8-24, 46T-G10-24, WST-24

Mirtone - Models 74400, 74401, 74402, 74403, 74404, 74405

Monaco Enterprises - Models 581-421-00, 581-422-00, 581-461-00, 581-463-00, 582-400-00, 582-421-00, 582-463-00, 585-020-00, 585-022-00, 585-027-00

National Time and Signal Corp. - Models 204, 206, 206-AV, 210, 210-AV, 424, 424-AV, 424-AV-F, 510-AV, 570-AV, 580-AV, 590-AV, EH-F, EH-F-AV, EH-S, EH-S-AV

Notifier Company - Models 34T-24, 7001T-24, 7002T-24

Potter Electronic Signals Co. - Models AES-24, AES-24F, AES-24S, AES-24SF, AES-24S-70, CH-24, CH-24FR, CH-24FS, CH-24S, CH-24SFR, CH-24SFS, EH-24, EH-24F, EHS-24, EHS-24D, EHS-24F, EHS-24FD, ES-25SR, ES-25SS, ES-25SR-70, ES-25SS-70, ETD-25, ETD-25F, ETD-25FR, ETD-25FS, FH-24, FHS-24, FHS-24D, FHS-24F, FHS-24FV, MH-24, MH-24S, MH-24S-70, STR-241, STR-241-70, STR-244, STR-244-70, STR-244WP, STR-244-70WP, VL1-241, VL-244, VLP-244

Pyrotrol Inc. - Models EH-DL1-R, EH-DL1-W-24-VF-R, EH-EL1-W-24-VF-R, EHS-DL1-W-VF-R, EHS-EL1-W-VF-R

Radionics - Models D430, D434, D439, D441, D443, D449, D453

Rauland Borg - Models FA501, FA502

Securiplex - Models AES-DL1-R, AES-EL1-R, AES-DL1-WH-24-VF-R, AES-EL1-WH-24-VF-R, AES-DL1-W-24-VF-R, AES-EL1-W-24-VF-R, MB-G6-24-R, MB-G10-24-R, MBS-G6-24-W-HF-R, MBS-G10-24-W-HF-R, MIZ-24-R, MIZ-24-W, MIZ-24-WH-VF-R, MIZ-24-WS-VF-R, MIZ-24-WS-VF-W, WHT-24-FR, WST-24-FR, WH1T-24-FR, WS1T-24-FR, WH3T-24-FR, WH3T-24-XR, WS3T-24-FR

Simplex - Models 2098-9536 (4 wire), 2098-9207

Thorn Automated Systems Inc. - Models 34T-24-R, 46T-G4-24-R, 46T-G6-24-R, 46T-G10-24-R, 46T-G6-WS-24-HF-R, 46T-G10-WS-24-HF-R, CH-CF1, CH-DF1, CH-CF1-WS-24, CH-DF1-WS-24, EH-DL1-R, EH-EL1-R, EH-DL1-W-24-VF-R, EH-EL1-W-24-VF-R, EHS-DL1-W-VF-R, EHS-EL1-W-VF-R, ET-1010-WS-24-HF-R, ET-1010-WS-24-HF-PR, ET-1010-WS-24-HF-PW, ET-1070-WS-24-VF-R, ET-1080-WS-24-VF-R, ET-1080-WS-24-VF-PR, ET-1080-WS-24-VF-PW, ET-1090-WS-24-CF-W, WST-24-FR, WS1T-24-FR, WS3T-24-FR

Tork Inc. - Models TA434-6G1, TA434-10G1, TA434-G5R, TA435-6G1, TA435-10G1, TA871-G1, TA873-G1, TA875-G1, TA875F-G1, TA877-G1, TA880-AD, TA880-G1, TA880-G1R, TA880F-E1, TA880F-G1, TA890F-G1, TA891F-G1, TA5348-G1, TA5507-AD, TA5508-AD, TA5508F-G1, TA5508HF-G1, TA5509-AD, TA5509HF-G1, TA5520-AD, TA5520-AQ, TA5520F-AQ, TA5550-G1

Wheelock Inc. - Models 34T-24-R, 46T-G10-24-R, 46T-G10-24-WH-24-HF-R, 46T-G10-24-WS-24-HF-R, 46T-G4-24-R, 46T-G6-24-R, 46T-G6-24-WH-24-HF-R, 46T-G6-24-WS-24-HF-R, 46T-G8-24-R, AES-DL1-R, AES-DL1-W, AES-DL1-WH-24-VF-R, AES-DL1-WM-24-VF-R, AES-EL1-WM-24-VF-R, AES-DL1-WS-24-VF-R, AES-EL1-R, AES-EL1-W, AES-EL1-WH-24-VF-R, AES-EL1-WS-24-VF-R, CH-BF1-R, CH-BF1-WS-24-HF-R, CH-CF1-W, CH-CF1-WS-24-CF-W, CH-DF1-R, CH-DF1-WM-24-VF-R, CH-DF1-WS-24-VF-R, E-7025-WH-24-VF-R, E-7025-WH-24-VF-W, E-7025-WM-24-VF-R, E-7025-WM-24-VF-W, E-7025-WS-24-VF-R, E-7025-WS-24-VF-W, E-7070-WH-24-VF-R, E-7070-WH-24-VF-W, E-7070-WM-24-VF-R, E-7070-WM-24-VF-W, E-7070-WS-24-VF-R, E-7070-WS-24-VF-W, E-9025-WH-24-CF-W, E-9025-WS-24-CF-W, E-9070-WH-24-CF-W, E-9070-WS-24-CF-W, EH-DL1, EH-EL1, EH-DL1-WH-24-VF-R, EH-DL1-WM-24-VF-R, EH-EL1-WM-24-VF-R, EH-DL1-WS-24-VF-R, EH-EL1-WS-24-VF-W, EHS-24, EHS-24F, EHS-DL1-W-VF-R, EHS-EL1-W-VF-R, ET-1010-WS-24-HF-R, ET-1070-WM-24-VF-R, ET-1070-WM-24-VF-W, ET-1070-WS-24-VF-R, ET-1080-WM-24-VF-R, ET-1080-WM-24-VF-W, ET-1080-WS-24-VF-R, ET-1090-WS-24-CF-W, MB-G10-24-R, MB-G6-24-R, MBS-G10-24-W-HF-R, MBS-G6-24-W-HF-R, MIZ-24-R, MIZ-24-W, MIZ-24-WH-VF-R, MIZ-24-WM-VF-R, MIZ-24-WS-VF-R, MIZ-24-WS-VF-W, MT-24-WH, MT-24-WM, VL-24-W-VF-R, VL1-24-W-VF-R, VLP-24-W-VF-R, WH1T-24-FR, WH3T-24-FR, WHT-24-FR, WM1T-24-FR, WM3T-24-FR, WMT-24-FR, WS1T-24-FR, WS3T-24-FR, WST-24-FR, LS-24-VFR, LS1-24-VFR, LS3-24-VFR, LSP-24-HFR, LSM-24-VFR, LS1M-24-VFR, LS3M-24-VFR, LSPM-24-VFR, MS-24-VFR, MS1-24-VFR, MS3-24-VFR, MSP-24-HFR, IS-24-VFR, IS1-24-VFR, IS3-24-VFR, ISP-24-HFR, HSW-24-HFR, HS2W-24-HFR, SPW-24-HFR, MIZ-24-LS-VFR, MIZ-24-LSM-VFR, MIZ-24-MS-VFR, MIZ-24-IS-VFR, MIZ-24-HSW-HFR, MT-24-LS-VFR, MT-24-LSM-VFR, MT-24-MS-VFR, MT-24-IS-VFR, MT4-24-LS-VFR, MT4-24-LSM-VFR, MT4-24-MS-VFR, MT4-24-IS-VFR, AES-DL1-LSM-24-VFR, AES-EL1-LSM-24-VFR, CH-CF1-LS-24-CFW, CH-CF1-MS-24-CFW, CH-CF1-IS-24-CFW, CH-DF1-LS-24-VFR, CH-DF1-LSM-24-VFR, CH-DF1-MS-24-VFR, CH-DF1-IS-24-VFR, E-7025-LS-24-VFR, E-7025-LSM-24-VFR, E-7025-MS-24-VFR, E-7025-IS-24-VFR, E-9025-LS-24-CFW, E-9025-MS-24-CFW, E-9025-IS-24-CFW, E-7070-LS-24-VFR, E-7070-LSM-24-VFR, E-7070-MS-24-VFR, E-7070-IS-24-VFR, E-9070-LS-24-CFW, E-9070-MS-24-CFW, E-9070-IS-24-CFW, ET-1070-LS-24-VFR, ET-1070-LSM-24-VFR, ET-1070-MS-24-VFR, ET-1070-IS-24-VFR, ET-1080-LS-24-VFR, ET-1080-LSM-24-VFR, ET-1080-MS-24-VFR, ET-1080-IS-24-VFR, ET-1090-LS-24-CFW, ET-1090-MS-24-CFW, ET-1090-IS-24-CFW

The 24V unit may be used with any UL Listed Access Control device with an input voltage rating over the range of 23.5 to 25VDC.



ALARM SAF